

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/051914

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C08F10/00 C08F4/64 C08F10/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C08F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	BARINO, LUISA ET AL BARINO, LUISA ET AL: "Steric equivalence between internal and external donors as polymerization stereoregulators: a molecular mechanics study Steric equivalence between internal and external donors as polymerization stereoregulators: a molecular mechanics study" MACROMOLECULAR SYMPOSIA , 89(SYNTHETIC, STRUCTURAL AND INDUSTRIAL ASPECTS OF STEREOSPECIFIC POLYMERIZATION), 101-11, 1995, XP0008029111 the whole document	1-10
Y	GB 1 235 569 A (MONSANTO CO) 16 June 1971 (1971-06-16) examples 1-3 ----- -/--	1-10

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

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- *E* earlier document but published on or after the international filing date
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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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Date of the actual completion of the international search

1 December 2004

Date of mailing of the international search report

14/12/2004

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PCT/EP2004/051914

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 356 848 A (BRUSSON JEAN M ET AL) 18 October 1994 (1994-10-18) examples 20,52; tables I,II	1-10
A	BARINO, LUISA ET AL BARINO, LUISA ET AL: "Modeling of isospecific Ti sites in MgCl ₂ supported heterogeneous Ziegler-Natta catalysts Modeling of isospecific Ti sites in MgCl ₂ supported heterogeneous Ziegler-Natta catalysts" MACROMOLECULAR THEORY AND SIMULATIONS , 7(4), 407-419, 1998, XP0008029113 the whole document	1-10
A	MASI, F. ET AL MASI, F. ET AL: "Characterization of active sites in Ti/Hf/MgCl ₂ catalysts by chiral reagents" STUDIES IN SURFACE SCIENCE AND CATALYSIS , 89(CATALYST DESIGN FOR TAILOR-MADE POLYOLEFINS), 73-80, 1994, XP0008029109 tables 1-4	1-10
A	VIZZINI, JAMES ET AL VIZZINI, JAMES ET AL: "Stereoselective polymerization of .alpha.-olefins by heterogeneous chiral Ziegler-Natta catalysts Stereoselective polymerization of .alpha.-olefins by heterogeneous chiral Ziegler-Natta catalysts" MACROMOLECULES , 25(1), 108-15, 1992, XP0001189084 the whole document	1-10
A	DATABASE CHEMABS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; ISHIHARA, TAKESHI ET AL: "Preparation of catalyst components for polymerization of olefins" XP002274863 retrieved from STN Database accession no. 1994:509864 abstract & JP 06 049119 A (TONEN CORP, JAPAN) 22 February 1994 (1994-02-22)	1-10
A	DATABASE CHEMABS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; LUU, MING CHUANG ET AL: "Catalysts for the polymerization of alpha-olefins" XP002274864 retrieved from STN Database accession no. 1991:62989 abstract	1-10
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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/051914

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	& JP 02 173105 A2 (FORMOSA PLASTICS CORP., TAIWAN) 4 July 1990 (1990-07-04) -----	
A	EP 0 171 200 A (TOA NENRYO KOGYO K. K., JAPAN) 12 February 1986 (1986-02-12) page 23; example 14; table IV page 27; example 28; table VI -----	1-10
A	EP 0 173 472 A (TOA NENRYO KOGYO K. K., JAPAN) 5 March 1986 (1986-03-05) page 21; example 49 page 25; table VI -----	1-10
A	EP 0 208 524 A (TOA NENRYO KOGYO K. K., JAPAN) 14 January 1987 (1987-01-14) page 23; example 56 page 27; example 56 -----	1-10
A	XU, JUNTING ET AL XU, JUNTING ET AL: "Influence of Electron Donors on the Tacticity and the Composition Distribution of Propylene -Butene Copolymers Produced by Supported Ziegler-Natta Catalysts Influence of Electron Donors on the Tacticity and the Composition Distribution of Propylene -Butene Copolymers Produced by Supported" MACROMOLECULES , 30(25), 7655-7660 CODEN: MAMOBX; ISSN: 0024-9297 MACROMOLECULES , 30(25), 7655-7660 CODEN: MAMOBX; ISSN: 0024-9297, 1997, XP0001189086 the whole document -----	1-11
A	LORENZO, M. ORTEGA ET AL: "Creating Chiral Surfaces for Enantioselective Heterogeneous Catalysis: R,R-Tartaric Acid on Cu(110)" JOURNAL OF PHYSICAL CHEMISTRY B , 103(48), 10661-10669 CODEN: JPCBFK; ISSN: 1089-5647, 1999, XP0001188940 cited in the application the whole document -----	1-11

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/051914

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 1235569	A	16-06-1971	DE 1814287 A1	14-08-1969
			BE 696593 A	04-10-1967
			DE 1745099 A1	14-05-1970
			GB 1182651 A	04-03-1970
			GB 1233599 A	26-05-1971
			NL 6704784 A	05-10-1967
			US 3677911 A	18-07-1972
			US 3684739 A	15-08-1972
			US 3700710 A	24-10-1972
			US 3787383 A	22-01-1974
			US 3516978 A	23-06-1970
			US 3546083 A	08-12-1970
US 5356848	A	18-10-1994	FR 2633298 A1	29-12-1989
			US 5264088 A	23-11-1993
			AT 96811 T	15-11-1993
			BR 8903067 A	06-02-1990
			CA 1340307 C	05-01-1999
			CN 1040376 A ,B	14-03-1990
			DE 68910410 D1	09-12-1993
			DE 68910410 T2	19-05-1994
			EP 0351265 A1	17-01-1990
			ES 2048853 T3	01-04-1994
			JP 2051506 A	21-02-1990
			JP 2768982 B2	25-06-1998
			KR 178365 B1	15-05-1999
			MX 171373 B	20-10-1993
			US 5068014 A	26-11-1991
			MX 9203802 A1	01-07-1992
JP 6049119	A	22-02-1994	NONE	
JP 2173105	A2	04-07-1990	JP 2005091 C	11-01-1996
			JP 2173105 A	04-07-1990
			JP 7033407 B	12-04-1995
EP 0171200	A	12-02-1986	JP 1927368 C	25-04-1995
			JP 6055780 B	27-07-1994
			JP 61021109 A	29-01-1986
			AU 582169 B2	16-03-1989
			AU 4467985 A	16-01-1986
			CA 1248511 A1	10-01-1989
			DE 3576508 D1	19-04-1990
			EP 0171200 A2	12-02-1986
EP 0173472	A	05-03-1986	US 4727049 A	23-02-1988
			JP 1927370 C	25-04-1995
			JP 6055782 B	27-07-1994
			JP 61037802 A	22-02-1986
			AU 582177 B2	16-03-1989
			AU 4562285 A	06-02-1986
			CA 1248932 A1	17-01-1989
			DE 3580951 D1	31-01-1991
			EP 0173472 A2	05-03-1986
			US 4613579 A	23-09-1986
EP 0208524	A	14-01-1987	US 4959427 A	25-09-1990
			JP 1984583 C	25-10-1995

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/051914

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0208524	A	JP 7021018 B	08-03-1995
		JP 62007706 A	14-01-1987
		AU 5975186 A	08-01-1987
		CA 1288758 C	10-09-1991
		DE 3671234 D1	21-06-1990
		EP 0208524 A1	14-01-1987
		US 4693990 A	15-09-1987
